

Notice of Allowability

Application No.

10/713,117

Examiner

Michael Trinh

Applicant(s)

LEE ET AL.

Art Unit

2822

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed July 15, 2005 & Interview on September 16, 2005.
2. ☒ The allowed claim(s) is/are 21-24.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/566,916.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



Michael Trinh
Primary Examiner

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DETAILED ACTION

*** This office action is in response to Applicant's Amendment filed July 15, 2007. Claims 21-34 are pending. Claims 1-20 were canceled.

Election/Restrictions

1. Newly submitted claims 25-34, Group II, is directed to an invention that is distinct and species from the invention originally claimed in original claims 21-24, Group I, for the following reasons: Group II, new claims 25-34, is directed to a different method as shown at least in Figures 18-21 for performing ion implantation using the conductive layer patterns as a mask to form the buried impurity diffusion regions; forming a conductive layer over the conductive layer patterns and the buried impurity diffusion regions. Since applicant has received an action on the merits for the originally presented invention of subject matter of Group I, method claims 25-34, Figs 26-28 for performing ion implantation using the photoresist pattern as a mask, removing the photoresist pattern, and sequentially stacking a second polysilicon layer and a metal silicide layer over the first polysilicon layer. This invention Group I, claims 21-24, has been constructively elected by original presentation and examination for prosecution on the merits.

Accordingly, Group II, new Claims 25-34, is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this Examiner's Amendment was given in a telephone interview with Attorney Kenneth Springer on September 16, 2005 for cancel non-elected claims 25-34. Without prejudice, Applicant reserved the right to subsequently file a divisional application for claims 25-34.

IN THE CLAIMS:

*** Cancel claims 25-34.

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Allowable Subject Matter

4. Claims 21-24 are allowed for reasons as of record and repeated hereafter.
5. The following is a statement of reasons for the indication of allowable subject matter:

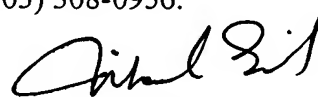
As of record, the references including Hasegawa (5,891,780), Sheng (5,585,297), Chung (5,891,779), of record, alone or in combination, do not anticipatively disclose each and every aspect of the claimed method, or fairly make a prima facie obvious case of the claimed method, in combination with other processing claimed limitations as recited in base claims, the inclusion of, as in claim 21, forming a photoresist patterns on the first polysilicon layer formed on the gate insulation layer, which entirely cover a peripheral circuit region but are patterned in a cell array region to expose regions which are to become buried impurity regions; performing ion implantation using the photoresist patterns as a mask so as to form buried impurity regions near the surface of the semiconductor substrate, wherein the buried impurity regions are parallel, separated from each other by a predetermined interval and extend in the same direction; removing the photoresist patterns, and sequentially stacking a second polysilicon layer and a metal silicide layer on the first polysilicon layer; and sequentially etching the first and second polysilicon layers and the metal silicide layer so as to form word lines, wherein the word lines are parallel, separated from each other by a predetermined interval and extend in the perpendicular direction to the buried impurity diffusion region.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael M. Trinh whose telephone number is (571) 272-1847. The examiner can normally be reached on M-F: 8:30 Am to 5:00 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone numbers for the organization where this application proceeding is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Oacs-9



Michael Trinh
Primary Examiner